

April 17, 1964

Dr. Dean Clyde
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Dear Dean:

Since receiving the discriminate function analysis for the schizophrenic and depressed patients using the EEG measures in January, I have spent some time to try to understand the apparently unusual results. Before receiving this analysis, it was my impression that schizophrenic patients usually had lower voltage, fast frequency records in comparison to depressed patients. The latter usually being older, had slow alpha records as the dominant pattern.

Your analysis showed that our schizophrenics had a greater degree of delta activity and a significantly lesser degree of beta activity.

We have examined the population characteristics of the 20 patients at each end of the discriminate scale. First, of the 25 patients at the schizophrenic end of the scale, 9 were labeled childhood schizophrenia and 8 undifferentiated schizophrenia. More important, the mean age of the first 20 patients is 22.9 years and of the last 20, 43.5 years.

We have reviewed the records in this group of subjects. Two things are most striking. In comparison to the records we now see, the Hillside records had a great deal of alpha activity, were exceptionally well modulated, with high amplitudes. Neither in the schizophrenic group nor in the depressed group do we have the commonly described low voltage, fast frequency record. Secondly, the younger patients some of whom are labeled childhood schizophrenia and some of whom were labeled undifferentiated schizophrenia, have no fast activity and the only theta dominant and delta dominant records are in these subjects.

Thus, the frequency analyzer data is supported by our review using visual analysis. The reason for the difference in the two groups may not lie in the diagnosis of schizophrenia as such, but in the unique qualities of the Hillside population. To confirm this suggestion, I reviewed the psychopathological characteristics of these 40 patients as described in the physicians' referral rating scale. For these patients, there were no differences between the childhood schizophrenia, the depressed, and the schizophrenic groups in such important symptoms as agitation, delusions, depression, hypoactivity, or confusion. The only distinguishing characteristic was in the incidence

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of hallucinations which appeared in 4 of the 9 childhood schizophrenics, 4 of the 21 schizophrenics, and in none of the depressive patients. In many ways, the Hillside Hospital population has lesser degrees of psychopathology than is commonly described in the major acute treatment centers, or in state hospitals. As such, the separation into two groups by diagnosis is poor.

The most important observation is that those young patients who are classified childhood schizophrenia or other young schizophrenics may have unusual amounts of slow wave activity and less than expected amounts of fast EEG activity in contrast to all other schizophrenics and depressed patients. This finding should be examined and I have made such a recommendation both to Dave Engelhardt when we visited in Florida, and more recently to the child psychiatrist at the St. Louis State Hospital and at Washington University.

It is difficult to get to the Hillside Hospital material in face of all the new and exciting things that are being done here. However, this has been a very valuable experience.

Many thanks for doing this analysis for us.

You should be pleased to know that the computer people at Washington U., their faces somewhat red, called me a few days ago to say there was a program error in their canonical program and they now obtain the identical numbers that you have sent to them. Thanks also for helping them out.

Sincerely yours,

Max Fink, M. D.
Director

MF/jb